

Lorenzo Taggi  
CURRICULUM VITAE  
(ai fini della pubblicazione)

Berlino,  
7 Ottobre 2019

**Part I: Education**

- **Max Planck Institute for Mathematics in the Sciences** Leipzig, Germany  
*PhD in Mathematics, “summa cum laude”* September 2011 - September 2015  
– Thesis advisor: Artem Sapozhnikov
- **Sapienza Università di Roma** Roma, Italy  
*MSc in Statistical Physics, “110/110 summa cum laude”* 2008 - 2010  
– Erasmus program at University of Amsterdam
- **Sapienza Università di Roma** Roma, Italy  
*BSc in Physics, “110/110 summa cum laude”* 2005 - 2008
- **Liceo Scientifico “Francesco Severi”** Frosinone, Italy  
*High school degree, 100/100* 2000 - 2005

**Part II: Academic Appointments**

- **Weierstrass Institute for Applied Analysis and Stochastics** Berlin, Germany  
*3+3 years WIAS research position* from March 2019 until present
- **University of Bath** Bath, U.K.  
*Research Fellow* June 2018 - January 2019
- **Technische Universität Darmstadt** Darmstadt, Germany  
*Research Fellow* June 2015 - June 2018

### Part III: Teaching experience and supervision of students

I taught two courses for bachelor and master students in Mathematics:

- *Random Walks on Graphs and Potential Theory*, SS 2016, TU Darmstadt,
- *Introduction to Statistical Mechanics*, SS 2017, TU Darmstadt.

Each course consisted of 21 lectures (7 of them in the form of exercise sessions) lasting one hour and forty minutes each (5 credit points). Moreover, I supervised the following two bachelor students in Mathematics at TU Darmstadt:

- Alexandros Tsiouris (thesis title *Random walks on networks and reduction laws*, April - July 2017)
- Steffen Polzer (thesis title *Infinite-volume random loop measures*, September 2017 - January 2018).

### Part IV: Funding Information

Leibniz Foundation . . . . . March 2019 - September 2023  
EPSRC grant (Engineering and Physical Sciences Research Council) . . . July 2018 - January 2019  
DFG grant (German Research Foundation) . . . . . June 2015 - April 2019  
IMPRS Scholarship (International Max Planck Research School) . . . . . April 2011 - April 2015  
Erasmus Scholarship . . . . . September 2008 - January 2009  
Physics Laboratory Assistant . . . . . January 2010 - June 2010

### Part V: Research Visits

- *Tel Aviv University*  
One week, invited by Ron Peled, May 2019, Tel Aviv, Israel.
- *Institute for Advanced Study*  
Two weeks, invited by Lionel Levine, April and May 2019, Princeton, NJ, US.
- *Mathematics Institute Oberwolfach*  
Project research in Pair with 'Niccolo Torri', two weeks, February 2019, Oberwolfach, Germany.
- *Roma Tre University*  
Two months, and October 2018, Rome, Italy.
- *IMPA*  
Two months, October and November 2014, invited by Vidas Sidoravicius, Rio de Janeiro, Brazil

### Part VI: Selected seminars

- *CIRM (Marseille)*, workshop 'Recent Progress on Random Walks', May 2020. Probability seminar.
- *University of Warwick*, January 2020. Statistical Mechanics seminar.

- *TU Darmstadt*, December 2019. Probability seminar.
- *University of Lyon*, November 2019. Probability seminar.
- *University of Rome 'La Sapienza'*. Probability seminar.
- *University of Fribourg*, workshop 'Recent Advances in Loop Models and Height Functions', September 2019. Invited speaker.
- *Tel Aviv University*, Horowitz Seminar. May 2019.
- *Université Paris-Est Créteil*, February 2019. Probability seminar.
- *Weierstrass Institute, Berlin*, November 2018. Probability seminar.
- *Roma Tre University*, October 2018. Probability seminar.
- *University of Bristol*, workshop 'High-dimensional critical phenomena in random environments', October 2018. Invited speaker.
- *University of Gothenburg*, workshop 'Probabilistic Approaches to Quantum Spin Systems', April 2018. Invited speaker.
- *Université Paris 6 - Pierre et Marie Curie*, February 2018. Probability seminar.
- *Mathematisches Forschungsinstitut Oberwolfach*, workshop 'Strongly Correlated Random Interacting Processes', January 2018. Invited speaker.
- *University of Warwick*, November 2017. Probability seminar.
- *Politecnico di Torino*, conference 'First Italian Meeting on Probability and Mathematical Statistics', June 2017. Invited speaker.
- *Universität Mannheim*, April 2017. Probability seminar.
- *Utrecht University*, 'Star Workshop on Random Graphs', January 2017. Contributed talk.
- *American University of Armenia*, conference 'Stochastic and Analytic Methods in Mathematical Physics', September 2016. Invited speaker.
- *Technische Universität Darmstadt*, October 2016. Probability seminar.
- *University of Bath*, May 2016. Probability seminar.
- *Ruhr Universität Bochum*, conference 'German Probability Stochastic Days', March 2016. Contributed talk.
- *Mathematisches Forschungsinstitut Oberwolfach*, workshop 'Interplay of Analysis and Probability in Applied Mathematics', August 2015. Invited speaker.
- *Max Planck Institute for Mathematics in the Sciences*, Leipzig, April 2015. Probability seminar.
- *Technische Universität München*, January 2015. Probability seminar.
- *Instituto Nacional de Matemática Pura e Aplicada*, Workshop 'First-passage percolation', Rio de Janeiro (Cabo Frio), November 2014. Invited speaker.
- *University of Bath*, 'School and Workshop on Random Interacting Systems', July 2014. Contributed talk.
- *Technische Universität Darmstadt*, spring school 'Spatial models in statistical mechanics', February 2014. Contributed talk.
- *TU Eindhoven*, workshop 'Probabilistic Cellular Automata: Theory, Applications and Future Perspectives', June 2013. Contributed talk.

## Part VII: Editorial activity

Referee for *Annals of Probability*, *Communications in Mathematical Physics*, *Electronic Journal of Probability*, *Electronic Communications in Probability*, *Journal of Statistical Physics*, *SODA 2019* (ACM-SIAM Symposium on Discrete Algorithms).

## Part VIII: Linguistic Proficiency

- **Italian:** Native Speaker
- **English:** Full working proficiency
- **German:** Working proficiency
- **French:** Elementary

## Part IX: Preprints

- 12 **Uniformly positive correlations in the dimer model and phase transition in lattice permutations in  $\mathbb{Z}^d$ ,  $d \geq 3$**   
Author: L. Taggi.  
ArXiv: 1909.06558 (2019)  
Submitted to *Journal of the AMS*
- 11 **Abelian oil and water dynamics does not have an absorbing-state phase transition.**  
Authors: E. Candellero, A. Stauffer and L. Taggi.  
ArXiv: 11901.08425 (2019).  
Submitted to *Transactions of the AMS*

## Part X: List of published and accepted papers

- 10 **Site monotonicity and point-wise positivity for the spin  $O(N)$  model and interacting random walks.**  
Authors: B. Lees, and L. Taggi.  
Accepted for publication in *Communications in Mathematical Physics*.  
ArXiv: 1902.07252 (2019).
- 9 **Interacting self-avoiding polygons.**  
Authors: V. Betz, H. Schäfer, L. Taggi.  
Accepted for publication in *Annales de l'Institut Henri Poincaré (B): Probability and Statistics*.  
ArXiv 1805.08517 (2018).
- 8 **Shifted critical threshold in the loop  $O(n)$  model at arbitrary small  $n$ .**  
Author: L. Taggi.  
Published in *Electronic Communications in Probability*, Vol 23, No 96, Pag 1-9 (2018).

- 7 **Active phase for activated random walks on  $\mathbb{Z}^d$ ,  $d \geq 3$ , with density less than one and arbitrary sleeping rate.**  
 Author: L. Taggi.  
 Published in *Annales de l'Institut Henri Poincaré (B): Probability and Statistics*, Vol 55, No 3, Pag 1751–1764 (2019).
- 6 **Scaling limit of a self-avoiding walk interacting with spatial random permutations.**  
 Authors: V. Betz, L. Taggi.  
 Published in *Electronic Journal of Probability*, Vol 24, No 74, Pag 1-37, (2019).
- 5 **Critical density for activated random walks on transitive graphs.**  
 Authors: A. Stauffer, L. Taggi.  
 Published in *Annals of Probability*, Vol 46, No 4 (2018), 2190-2220.
- 4 **Absorbing-state phase transition in biased activated random walk.**  
 Author: L. Taggi.  
 Published in *Electronic Journal of Probability*, Vol 21 No 13, p. 15 (2016).
- 3 **Convergence time of probabilistic cellular automata on the torus.**  
 Author: L. Taggi.  
 Book chapter published in *Probabilistic cellular automata. Theory, Applications and Future Perspectives*, editors: P-Y. Louis, F.R. Nardi. ISBN 978-3-319-65556-7, Springer (2018).
- 2 **Critical probabilities and convergence time of Percolation probabilistic cellular automata.**  
 Author: L. Taggi.  
 Published in *Journal of Statistical Physics*, Vol 159 No 4, pp. 853-892, (2015).
- 1 **Dynamical Correlations in the Escape Strategy of Influenza A virus.**  
 Authors: L. Taggi, F. Colaiori, V. Loreto, F. Tria.  
 Published in *Europhysics Letters*, Vol 101 68003 (2013).

## Part XI: Bibliometric Data

La sorgente dei seguenti dati bibliometrici é la piattaforma internet Scopus.

- Numero complessivo di lavori su banche dati internazionali riconosciute per l'abilitazione scientifica nazionale: 6 (Scopus)
- Numero totale di citazioni: 15
- Numero medio di citazioni per articolo: 2.5
- Indice H: 3
- Impact factor totale (corrispondente alla somma dei valori di impact factor di ogni articolo, dove l'impact factor di ogni articolo corrisponde al valore di impact factor del giornale su cui esso é stato pubblicato calcolato nell'anno della pubblicazione). 14.556. Nota: non si include nel calcolo il lavoro numero tre in quanto non disponibile l'impact factor del libro su cui esso é pubblicato non é disponibile.
- Impact factor medio (corrispondente al valore di cui sopra diviso il numero di articoli coinvolti nel calcolo della somma, il cui numero é 9): 1.617

Si fa presente che al momento della domanda il candidato é autore o coautore di **dieci lavori di ricerca** pubblicati o accettati per la pubblicazione, di cui **nove articoli** pubblicati o accettati per la pubblicazione su riviste internazionali e **un capitolo di un libro** pubblicato dalla casa editrice Springer (punto numero 3 nell'elenco sopra). Inoltre il candidato é autore di **due preprints** i quali sono al momento della domanda in considerazione per la pubblicazione su riviste internazionali.

Il candidato intende presentare domanda per ottenere l'abilitazione nazionale come professore associato in Matematica (settore concorsuale MAT/06) nel corso del 2020 o del 2021.